

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application.

Listing of Claims:

1. (Currently Amended) An information-processing device at a communication source, that communicates with an information-processing device at a communication destination through a communication control device at the communication source, comprising:

a relay node counter that counts a number of relay nodes from the information-processing device at the communication source to a relay node relaying packets from a global address to an another global address;

a span of packet life setting part including a processor that sets a span of packet life of a bubble packet to be transmitted from the information-processing device at the communication source in order to open a port of the communication control device at the communication source, so that the bubble packet can reach the relay node relaying the packets from the global address to the another global address, based on the number of relay nodes counted by the relay node counter; and

a bubble packet transmitter that transmits the bubble packet having the span of packet life that the span of packet life setting part has set, through the communication control device at the communication source,

a communication control unit~~wherein the information-processing device at the communication source is~~ configured to receive a reply packet from the information processing device at the communication destination via the opened port of the communication control device at the communication source.

2. (Previously Presented) The information-processing device as claimed in claim 1, wherein

communication between the information-processing device at the

communication destination and the information-processing device at the communication source is performed through a communication control device at the communication destination; and wherein

the span of packet life setting part sets a span of packet life in a range in which the bubble packet does not reach the communication control device at the communication destination.

3. (Cancelled).

4. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the span of packet life setting part sets a span of packet life so that the bubble packet can reach a relay node closest to the information-processing device at the communication source, out of relay nodes that relay packets from a global address to another global address.

5. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the span of packet life setting part sets a span of packet life with increasing the number of relay nodes that the bubble packet can reach, by one every time the bubble packet transmitter transmits a bubble packet, until communication is established between the information-processing device at the communication source and the information-processing device at the communication destination.

6. (Previously Presented) The information-processing device as claimed in claim 2, wherein

the span of packet life setting part sets a span of packet life with which the bubble packet can reach a relay node located before the communication control device at the communication destination.

7. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the span of packet life setting part sets a Time To Live (TTL) for the bubble packet.

8. (Cancelled).

9. (Previously Presented) The information-processing device as claimed in claim 1, wherein

the relay node counter counts the number of relay nodes with trace route.

10. (Cancelled).

11. (Previously Presented) A method of transmitting a bubble packet in an information-processing device at a communication source that communicates with an information-processing device at a communication destination through a communication control device at the communication source, comprising:

counting, a number of relay nodes from the information-processing device at the communication source to a relay node relaying packets from a global address to another global address;

setting, a span of packet life of a bubble packet to be transmitted from the information-processing device at the communication source in order to leave a transmission history in the communication control device at the communication source, so that the bubble packet can reach the relay node relaying the packets from the global address to the another global address, based on the number of relay nodes counted by the counting step;

transmitting the bubble packet having the span of packet life that the setting step has set through the communication control device at the communication source;

opening, by the communication control device at the communication source, a port of the communication control device at the communication source to accept a reply packet from the information-processing device at the communication destination responsive to sending the bubble packet; and

receiving, by the information-processing device at the communication source, the reply packet from the information-processing device at the communication destination via the opened port of the communication control device at the communication source.

12. (Cancelled).

13. (Previously Presented) The information-processing device according to claim 1, the device further comprising

a communication control unit for transmitting a port-detecting packet for notifying a server which intermediates communication to the information-processing device at the communication destination, of a global IP address and a port number through which the bubble packet, transmitted from the information-processing device at the communication source, passed the communication control device at the communication source.

14. (Previously Presented) The information-processing device according to claim 13, wherein the communication control unit receives a reply packet from the information-processing device at the communication destination to which the global IP address and the port number of the information-processing device at the communication source is notified, so that communication between the information-processing device at the communication source and the information-processing device at the communication destination bypassing the server is established.

15. (Previously Presented) The method according to claim 11, further comprising

transmitting, by a communication control unit, a port-detecting packet for notifying a server which intermediates communication to the information-processing device at the communication destination, of a global IP address and a port number through which the bubble packet transmitted from the information-processing device at the communication source passed the communication control device at the communication source.

16. (Previously Presented) The method according to claim 11, further

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comprising:

transmitting a port-detecting packet to notify a server which intermediates communication to the information-processing device at the communication destination, of the global IP address and the port number through which the bubble packet, transmitted from the information-processing device at the communication source, passed the communication control device at the communication source;

receiving, by the communication control device of the communication source, the reply packet from the information-processing device at the communication destination to which the global IP address and the port number of the information-processing device at the communication source is notified; and

establishing communication between the information-processing device at the communication source and the information-processing device at the communication destination bypassing the server.